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The contribution of Royal Navy aircraft carriers and the Fleet Air Arm to Operation ‘Overlord’, 1944

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During the Second World War, the aircraft carrier moved to the centre of naval strategy. Naval aviation (that is, aircraft operating from carriers rather than from bases ashore) became the core capability of the modern fleet, its possession the principal distinction between the major navies and the minor. This was as true for the Royal Navy as it was for the United States and Japan, the other leading naval powers behind which Britain had lagged in the early stages of the war.¹ The carrier took on the role of capital ship first alongside and then increasingly instead of the battleship, due to its ability to counter the major warships of the enemy but also to provide protection against submarines and air attack, to launch air strikes ashore and to support amphibious operations.²

Yet the rise to prominence of naval aviation was far from plain sailing in the Navy that had led the way in pioneering it. The role and utility of both elements, the aircraft carriers and the aircraft that operated from them, had been hugely controversial in the interwar period.³ Its value continued to be intensely debated in the years after the end of the Second World War – indeed, it is no exaggeration to state it was the single most

recurrent and contentious issue in British defence policy during the 1950s and 1960s. Naval aviation was frequently a target for attack by some in the Air Ministry and Royal Air Force (RAF), for whom the existence of an air arm outside their control was anathema, and also by ministers and officials from other departments who saw a convenient target for financial savings. Their case tended to centre on the purported ability of land-based air power to either perform the roles of naval aviation at a lower cost or to render them strategically irrelevant and unnecessary.⁴

A similar scepticism can be observed during the Second World War, and from no less a figure than the Prime Minister, Winston Churchill. While he took great pride in his self-designation as a 'former naval person', such expertise as he had dated from the battleship era and he never wholly understood naval aviation, despite having supported the Royal Navy's efforts to regain control of it in the 1930s. During the war he proved himself unable to escape the siren calls of the bomber barons with their claims to be able to achieve victory through air power, and naval aviation frequently attracted his critical attention.⁵ Churchill's occasionally disparaging attitude towards naval aviation is displayed in an April 1943 memorandum asking the Admiralty for a detailed report on the operational performance of the Fleet Air Arm, 'including sorties, casualty losses and damage inflicted on the enemy'. He added, 'I cannot recall any important offensive operation that the Fleet Air Arm has performed since Taranto in 1941 [sic].'⁶ The

Admiralty's reply will be considered below; for now it is enough to note that the contribution of naval aviation was, in the year before D-Day, not obvious even to the Prime Minister, a former First Lord of the Admiralty, and that his views have had wider influence.⁷

This article therefore aims to explore the utility of British naval aviation by examining its contribution to Operation Overlord, the liberation of Western Europe, and Operation Neptune, its assault stage. This provides an appropriate test, being the largest and most complex amphibious operation of the war – arguably in all of history. The significance of this operation and the challenges it posed would make it natural to assume that naval aviation would have played a prominent role, given its centrality to warfare at sea – and in particular to amphibious operations – that was established by 1944. Yet carriers were nowhere to be seen among the total of more than 7000 ships deployed in direct support of the Normandy landings.⁸ Their absence, reflected in the scarcity of references to carriers or naval aviation in the huge literature on D-Day,⁹ does seem at first glance to be rather anomalous.

There are, however, good reasons why carriers were not in evidence off the Normandy coast; yet this did not mean that British naval aviation was uninvolved in Operation

Overlord. Examining what the carriers and the Fleet Air Arm were doing over this period and how they contributed to the landings therefore adds to the understanding both of D-Day and also of the role of naval power in the European war. Further, it sheds light on the distinctive way in which navies in general and naval aviation in particular operate, how they contribute to strategy and warfare more broadly, and how this differs from ground forces and land-based air forces. Assuming that their contribution must take a similar form to those of the other forces is to overlook these differences, resulting in a distorted picture of naval campaigns and their influence on the Second World War and more generally.

The article first outlines the size and composition of the Royal Navy's air arm in the summer of 1944. It then examines whether there could have been a useful role for the carriers in direct, close support of the Normandy landings, before explaining the practical difficulties that pointed against such a use in view of the availability of land-based air support which, although less than ideal, was adequate. The article then assesses the ways in which the Fleet Air Arm¹⁰ and the Royal Navy's carriers contributed to Operation Overlord, both directly and indirectly, and also their many other roles around the time of D-Day. It argues that their contribution to this operation, as well as to other operations and indeed campaigns that were underway simultaneously, was enormous – as is revealed in the Admiralty's reply to the

memorandum from Churchill that was quoted above. That this is not always appreciated is largely due to the fact that understanding naval warfare, compared to war on land or even in the air, requires a broader canvas both geographically and chronologically. In other words, a full answer to the question does not emerge from considering the English Channel on 6 June 1944 alone but rather requires a bigger map and a longer timescale.

I. The Royal Navy's carrier force in June 1944

One serious constraint on the use of naval aviation in support of Operations Neptune and Overlord was the small number of carriers in service in the Royal Navy, and the small size of the Fleet Air Arm. While this situation was in large part the result of the scepticism of Churchill and others about the value of naval aviation, it also had the effect of limiting what naval aviation could accomplish, creating something of a vicious circle. Even at this late stage of the war, the Royal Navy had only five fleet carriers (that is, those capable of conducting the more demanding naval roles, striking heavy enemy warships or targets ashore, in the face of heavy air opposition). The Admiralty was well aware of the urgent need to get more air power to sea but the first of the new fleet carriers that were being built would not come into service until late 1944. The result was a series of innovations. The Navy ordered light fleet carriers as a 'makeshift

supplement' to the fleet carriers, yet their intended rapid completion was delayed by design changes to allow them to operate increasingly capable aircraft,¹¹ and none was in service by D-Day.

The most urgent need was for air support of convoys. To meet this requirement, the Admiralty adopted an idea that it had considered before the war, for 'auxiliary carriers', later known as 'escort carriers', or less formally as 'Woolworth' or 'jeep' carriers.

These were either converted merchant ships or purpose-designed but simple ships that could be built quickly, with flight decks, catapults, arrestor wires and hangars.

Compared to a fleet or light fleet carrier, they tended to carry less capable aircraft which were adequate given that they were intended for use in mid-Atlantic where they would not encounter high-performance enemy fighters. Those operating with the more dangerous Russian convoys carried more advanced fighters, as did those modified to specialise in supporting amphibious operations, the 'assault carriers'. Escort carriers also operated fewer aircraft – typically around a dozen, mainly Torpedo-Bomber-Reconnaissance (TBR) aircraft for trade protection, or some 20 fighters for an assault escort carrier, compared to 50 or more for a fleet carrier.¹² The first escort carrier, HMS *Audacity*, was commissioned in September 1941. Although she was sunk by a U-boat in December that same year, her 'short but brilliant career' fully vindicated the concept and by the end of the war Britain had commissioned 44 such vessels.¹³ Escort carriers

suffered some shortcomings in speed and in ability to operate the modern aircraft that eventually came into service in the FAA, yet they were hugely important in freeing (or at times supplementing) the fleet carriers for their unique role of countering enemy capital ships or heavy land-based aerial opposition. Indeed, so useful were they in view of the dire shortage of fleet carriers that many were diverted to fleet tasks, such that other improvisations were required for convoy protection.¹⁴

In June 1944, an impressive British fleet was being built, comprising four modern fleet carriers, 18 light fleet and 10 escort carriers. Many of these would come into service before the end of the war and later provided the mainstay of British naval aviation up to the 1970s. At the time of the D-Day landings, however, the Royal Navy had only five fleet carriers and 30 escort carriers in service. The number of operational aircraft in the FAA was also limited; it began the war with no more than 177 aircraft and only passed 1000 as late as the second quarter of 1945, and suffered delays in getting modern aircraft.¹⁵ This meant that the FAA could not do everything that the government wished and the fact that this was the result of political choices in attaching a relatively low priority to naval aviation did not make it any less of a constraint. For example, in November 1942 when losses of carriers led the United States to make an urgent request for British reinforcement of the Pacific, Britain could only do so at the expense of vital commitments in the Atlantic and Mediterranean. Even so, HMS *Victorious*, one of the

Royal Navy's most modern fleet carriers, was sent out though only on the condition that the US provided the smaller USS *Ranger* to strengthen the Home Fleet.¹⁶

II. Use of aircraft carriers off Normandy

The first question to consider is why aircraft carriers were not used immediately off the Normandy beaches in direct support of the landings. The Royal Navy had, after all, already used carriers in just this role for operations in Madagascar (the first time it had used them in this capacity), North Africa, Sicily and Italy, and would do so again in southern France later in 1944. An amphibious assault of this scale, directed against the continent where the main strength of the enemy lay, demanded a huge amount of supporting air power, not least from fighters both to defend against the enemy air threat and also for close support of the troops undertaking the landings and subsequent operations ashore. Of all the major amphibious operations conducted during the war, however, Operation Neptune benefitted from the greatest provision of friendly air bases within range of the landings. This proximity was no happy accident; it was one of the principal criteria that narrowed the options for the landings from the whole western coast of Europe between northern Norway and Portugal to a shortlist of just two, the Pas de Calais area and the Calvados coast of Normandy. Indeed, the Germans expected the invasion in the former precisely because they believed the proximity of air bases to be

the decisive consideration and this was the closest location to British air bases.

However, other factors involved in the decision – from the characteristics of the beaches to the terrain lying behind them, and notably the achievement of surprise – tipped the balance towards Normandy.¹⁷ The landings could therefore be supported by fighters operating from Britain and the operation need not rely on carrier-based air support.

Yet despite the number of air bases within range of the beaches, there was still a potentially valuable role for carrier-based aviation. Fighters operating from southern England could operate over the beaches but would be at the edge of their range, resulting in less time on patrol, a small proportion of the total force being in action and limited responsiveness to requests for support from naval or land forces.¹⁸ The Allies mitigated the disadvantages of operating from air bases at the edge of fighter range in four ways which at this late stage of the war were open to them. First, the planners sought a high degree of air superiority as a necessary precondition for the operation to go ahead. This long-term effort was achieved as one of the principal effects of the combined bomber offensive, which compelled German fighters to give battle and thus allowed them to be destroyed in large numbers, and by intensive attacks on Luftwaffe bases within range of the Channel. Second, contributing to the diversion of enemy air forces as much as that of land forces, the strategic deception campaign aimed to disperse German combat power. Third, the Allies now had the luxury of throwing

resources at the problem, with overwhelming numbers of aircraft concentrated for Neptune and Overlord.¹⁹ Fourth, planners placed a high priority on the rapid construction of landing strips ashore after D-Day to allow fighters to operate from, or at least to refuel and re-arm at, bases in France.²⁰ Nevertheless, the potential disadvantages of relatively distant air bases remained, not least given the number of high-value targets and the possibility of the Luftwaffe surging its limited strength to overwhelm routine Allied patrols. Carriers could in the early stages of the operation have provided a useful ready reserve of aircraft based closer to the beaches, where they could spend longer on patrol and return to action, refuelled and rearmed, more quickly after a sortie.

However, practical considerations make it hardly surprising that carriers were not used off Normandy. These vessels would have needed to steam west to launch aircraft (given the prevailing winds in the Channel) and then back east to regain their position.²¹ Such movement parallel to the Normandy coast by carriers and their escorting destroyers would have cut perpendicularly across the densely packed shipping lanes heading north-south between Britain and the invasion beaches, containing the 7000 warships, amphibious vessels and craft, and civilian ships supporting the landings. It would also have driven a requirement for even more than the 280 minesweepers already committed to Operation Neptune to counter German mines, which the naval commander of the

Allied expeditionary force, Admiral Sir Bertram Ramsay stated were 'our greatest obstacle to success'.²²

Given the already daunting congestion at sea due to the huge number of vessels involved, often with minimally trained crews, the disruption caused by the use of carriers would have been impractical except in dire need. Ramsay (who having previously planned the North Africa landings was well aware of the utility of carriers in amphibious operations) was evidently concerned about congestion during Operation Neptune, turning down a US Army request to use an old Royal Navy carrier for spotting aircraft on the grounds of the lack of sea room available.²³ The ability to operate fighters from British bases, albeit with limitations, was (not least because of the huge number of aircraft available) far short of a situation requiring such drastic and disruptive measures. Moreover, in addition to the practical difficulties involved in operating carriers in the Channel, the number of other calls on them (covered in detail below) suggests that only a very pressing need would have seen them used off Normandy, where land-based aircraft offered an adequate alternative. The Royal Navy's carriers represented a scarce resource for which there were more urgent needs in other theatres, where no other assets could replace them; their comparative advantages were better applied elsewhere.

III. British naval aviation in June 1944: Fleet Air Arm operations from ashore

There were therefore good reasons why the carriers were not operating just off the coast of Normandy in June 1944. This does not, however, mean that British naval aviation was not supporting Operation Overlord: naval forces do not depend on close proximity to support an operation. Their involvement is revealed by gradually broadening the focus outwards from the English Channel.

The May 1944 summary of naval air operations noted that, ‘Arrangements have been made for the Fleet Air Arm to help the Royal Air Force in forthcoming operations.’²⁴ This anodyne statement concealed a great deal of activity.

Even without aircraft carriers in the Channel, the FAA participated in the operation, from air bases on land. Exploiting the ability of naval aviation to step ashore in this way was a familiar practice throughout the war, from the 1940 campaign in France, the Dunkirk evacuation and the Battle of Britain onwards,²⁵ with FAA aircraft from land bases subsequently operating in the Channel, the Mediterranean, North Africa, the Indian Ocean and the Far East. In early 1943, for example, 13 Albacore and Swordfish

TBR squadrons were operating from bases in southern England and the Mediterranean theatre.²⁶ Later in the year the number had fallen to six squadrons but as the FAA had at this time only 34 squadrons of these aircraft, this was still a significant proportion of its strength.²⁷ If air bases were available in the right place and if there were military advantages in using them, then FAA aircraft did so. Operation Neptune saw just this sort of support provided. There was great need for this assistance, not least in filling gaps in specialist capabilities that were in particular demand. The planners and air commanders were well aware of the potential threat to the operation from German U-boats,²⁸ their remaining destroyers and small, fast attack craft including E-boats (motor torpedo boats) and R-boats (motor gunboats); the E-boats in particular were described as ‘the greatest menace to our shipping’.²⁹

Countering these threats was first and foremost the remit of RAF Coastal Command, which was responsible for land-based aircraft engaged in maritime operations. Its ability to do so effectively was hindered throughout the war by the priorities of the RAF leadership, whose single-minded focus on strategic bombing led to the neglect of other roles, particularly maritime ones. The result was that Coastal Command truly was a ‘Cinderella Service’.³⁰ Its weak position was further exacerbated in summer 1944 by the diversion of trained manpower to participate in airborne operations: as always, the Air Ministry, with Churchill’s backing, sought to protect the bombing campaign at the

expense of maritime commitments.³¹ During Neptune, as at other times during the war, Coastal Command badly needed the support of the FAA (which was itself severely under-resourced). Coastal strike squadrons would 'be fully employed outside the English Channel', making FAA aircraft a 'valuable reinforcement or relief' against U-boats and E-boats.³² Air Chief Marshal Sir Sholto Douglas, head of Coastal Command, was evidently aware of the weakness of his forces for protecting invasion shipping, describing them as 'inadequate to counter determined and continuous attacks from E, R or W/Boats'; he therefore increased the assistance sought from the Navy.³³

In January 1944 Churchill suggested that a rather arbitrary figure of 25 per cent of the personnel of the FAA should be used in Overlord, a proposal that was welcomed by Air Chief Marshal Sir Charles Portal, Chief of the Air Staff.³⁴ Both the Allied Expeditionary Air Force and the RAF requested large-scale support from the Navy, which amounted to a significant proportion of its meagre force. The Admiralty's initial offer comprised 30 TBR aircraft and 50 fighters yet the demand from the air side was considerably greater: the air forces requested a total of 48 TBR aircraft and 232 fighters, which represented 21 per cent and precisely 100 per cent, respectively, of the FAA's operational strength.³⁵ The Admiralty response was broadly positive, while pointing out that fully meeting these requests would prevent the Navy from conducting other priority tasks such as further planned landings in Europe, notably Operation Anvil (the invasion of southern

France), for which five escort carriers were earmarked; it would delay the entry into service of one fleet carrier and two escort carriers, and would postpone reinforcement of the British Pacific Fleet by three and a half months.³⁶ The initial request therefore had to be scaled back, with even Portal commenting that 'he thought it would be a mistake to immobilise any fleet carriers'. The Chiefs of Staff recommended reallocations of FAA aircraft that would impact escort carriers but not those that would immobilise the scarcer and more capable fleet carriers.³⁷ The result was nonetheless a sizeable FAA deployment from air bases ashore in direct and indirect support of Operation Neptune.

The first response to any soldier or marine on the D-Day beaches who asked where was the FAA, would be 'look up'. A Naval Fighter Wing of 42 Seafires provided aerial spotting to enhance the accuracy of the naval gunfire that was one of the principal Allied advantages and a key element of the plan to suppress and destroy the German defences. These four squadrons served alongside two from the RAF and one from the US Navy, all operating from a Royal Naval Air Station at Lee-on-Solent near Southampton.³⁸ During the planning stage, one senior RAF officer described the spotting role of fighters as being 'of primary importance to Overlord'.³⁹ Afterwards, the official report on naval gunfire support noted the important contribution made to this key capability by aerial spotting: 'all ships' reports, British and American, and the Force Commanders comment on the effectiveness of air spotting'; it also cited Ramsay's

judgement that, 'Spotting from single-seaters, never before undertaken on anything like such a grand scale, was on the whole a great success.'⁴⁰ When the Seafires were not required for spotting, they conducted offensive and fighter escort duties during which they destroyed or damaged seven enemy aircraft and also four human torpedoes being used against shipping.⁴¹

Moving the geographical spotlight a little further out, several TBR squadrons operated from shore bases alongside Coastal Command. Four squadrons totalling 48 aircraft were based at Manston and Hawkinge in Kent. They patrolled off the Dutch and Belgian coasts and in the Channel, against enemy surface warships and U-boats, which were expected to surge from their bases at Brest and on the French Biscay coast into the Channel when the invasion began.⁴² They also laid smoke screens to protect convoys in the Channel, provided illumination for attacks by light coastal forces and shot down two V1 flying bombs.⁴³ Another four squadrons of 48 TBR aircraft operated from southwest England, three from Perranporth in Cornwall and one from Harrowbeer in Devon.⁴⁴ They conducted anti-submarine patrols in the Southwest Approaches which, as noted above, was the direction from which the principal U-boat threat would emerge. In this role the ability of the FAA aircraft to operate at night was particularly useful while more broadly their presence freed up longer-range aircraft of the hard-pressed Coastal Command to operate further off, including in the Bay of Biscay.⁴⁵ In the event,

Allied precautions against the U-boats proved remarkably successful: 'Of the twenty-five U-boats ordered up the Channel in June, five abandoned the attempt, seven were sunk, and three were damaged sufficiently to send them back to base.'⁴⁶ Throughout the whole of June 1944, only two small merchant ships were sunk in the North Atlantic, in exchange for the destruction of 25 U-boats.⁴⁷ The efforts of the Fleet Air Arm, from carriers and ashore, were an integral part of this hugely successful joint-service effort.

The FAA also provided indirect, more distant support to Operation Neptune as further squadrons, or flights from squadrons, totalling 36 TBR aircraft and 83 fighters deployed in the north of the country. Northern Ireland hosted 28 fighters and six TBR aircraft, the Orkneys 25 fighters (mainly for air defence of the naval base at Scapa Flow), with a further 10 fighters and 30 TBR aircraft on the west coast of Scotland and 20 fighters on the east coast.⁴⁸ The deployment of FAA fighters ashore to provide air defence against the limited but real threat from the Luftwaffe freed RAF aircraft to shift southwards; the Chief of the Air Staff thanked the First Sea Lord for this loan: 'Your assistance did much to remove the anxiety we felt at having to uncover so much of the country to surprise air attacks while the bulk of our forces were engaged in the South.'⁴⁹ The additional fighters thereby relocated were all the more welcome given the additional requirements driven by the planners' increase in the size of the initial assault from three divisions to five, resulting in two more landing forces and two more beaches that

needed fighter cover and air support.⁵⁰ The TBR aircraft provided additional capacity in case of movements of the German fleet – which, as explained below, was arguably the greatest potential threat to Operation Neptune – or attempts to relocate U-boats from northern waters towards the Channel.

In total, therefore, 125 fighters and 132 TBR aircraft from the FAA operated from shore bases in support of the Normandy landings, representing respectively about one third and about 40 per cent of its operational strength.⁵¹ This commitment came at the cost of delaying by two months the entry into service of two trade protection escort carriers that were undergoing repairs; others were switched to the aircraft ferry role or had their air groups thinned out for the duration of the landings (often losing their more experienced pilots); and all Merchant Aircraft Carriers lost one aircraft for service ashore.⁵² This contribution was valued by the Chief of the Air Staff, as quoted above, and also by Douglas, the head of Coastal Command. Among all senior RAF officers, the latter was the most keenly aware of the shortfall between the resources of Coastal Command and the demands for its services during the Normandy landings. It is therefore noteworthy that he not only repeatedly increased his requests for FAA support but also in July resisted attempts by the Admiralty to reclaim naval aircraft as had been agreed, arguing that to do so would ‘deprive me of an extremely valuable addition to the A/U [anti-U-

boat] forces at my disposal, at a time when the activity of U-boats in the Channel Area is, if anything, on the increase.’⁵³

IV. Carriers in more distant support to Operation Neptune

In addition to supporting Operation Neptune from ashore, British naval aviation also did so from carriers, albeit not from right off the landing beaches. Three escort carriers deployed in the Southwest Approaches in support of the effort against the German U-boats. These carriers did not engage in anti-submarine warfare themselves but rather provided fighter cover for Coastal Command aircraft, which were otherwise vulnerable to long-range German fighters, and for naval escorts that were hunting U-boats.⁵⁴

Further away, two fleet carriers (*Furious* and *Victorious*) and one escort carrier (*Trumpeter*) were operating with the Home Fleet from Scapa Flow alongside three battleships.⁵⁵ The principal role of this force was the traditional one of the capital ship – neutralising the heavy units of the enemy fleet. They had achieved an important success in April with Operation Tungsten, the successful attack on the *Tirpitz* – the most powerful warship in European waters. This formidable battleship had been contained in

Norwegian fjords for some time, though it had in turn acted as a 'fleet in being', pinning down Royal Navy battleships and carriers to counter it. The FAA attack was conducted by strike aircraft from *Furious* and *Victorious*, accompanied by fighters from these two ships and three escort carriers for escort and flak suppression; a fourth escort carrier, supported by *Furious*, provided air and anti-submarine defence for the whole carrier force. It knocked out *Tirpitz* for three months, ensuring that she could not interfere with operations to the south.⁵⁶ Thereafter, the Home Fleet provided cover against a possible sortie by the remaining heavy units of the German fleet. This was a potentially formidable force, comprising the pocket battleships *Admiral Scheer* and *Lützow*, heavy cruisers *Prinz Eugen* and *Admiral Hipper*, plus four light cruisers and numerous destroyers. The official historian of the US Navy perceived an element of excessive caution and over insurance in British plans to deal with German heavy surface forces.⁵⁷ However, there is much hindsight in this judgement, not least because the Allies were not at the time aware of the poor readiness of the German fleet; the only capital ships known to be out of action were the battleships *Tirpitz* and *Gneisenau*, which still left the significant potential threat listed above. Morison's British counterpart takes a contrasting view, noting the possibility of a sortie against the landings, or indeed against convoys to Russia.⁵⁸ The planners could not take the Kriegsmarine's passivity for granted and the initial joint plan of February 1944 stated unequivocally: 'When it becomes clear to the enemy that a full-scale invasion is developing, it is probable that

all his available Naval forces will be used against our operations to the full extent of their capabilities.’⁵⁹

In case the German fleet should head towards the Channel, Admiral Ramsay had devised ‘Operation Hermetic’ to counter them, with Coastal Command attacking en route, and then the commander of the British Eastern Task Force gathering the battleships and cruisers in the bombardment force and from Portsmouth to engage the Germans in a decisive battle.⁶⁰ The Home Fleet in the north, including the two fleet carriers, provided cover against the more probable case of the Germans heading out into the Atlantic to disrupt shipping; this possibility had been highlighted by Coastal Command, which warned that it would only be able to provide reconnaissance so the ‘Home Fleet will accept entire responsibility’ for this scenario.⁶¹

The cover role is easily disregarded but the result was that the Allied forces in the Channel escorting the landing convoys, and those protecting shipping in the Atlantic or northern waters, would not need to face anything larger than destroyers. Carriers, with battleships in support, had provided cover during the amphibious operations in Madagascar, North Africa, Sicily and Salerno, in order to ensure that heavy enemy surface ships, the greatest potential threat to an amphibious operation, could not

interfere. The difference in summer 1944 was that in contrast to the situation in the Mediterranean, the German capital ships were contained far from the area of the landings, so the cover force was also more distant – and hence liable to be overlooked. Whether a sortie by the German fleet was successfully deterred or simply never planned is irrelevant; guarding against it was an inescapable requirement for Operation Overlord.

Moreover, the cover role should not be thought of as inactive. The warships earmarked for it were also performing other roles at the same time. As well as knocking out *Tirpitz*, the Home Fleet carriers launched strikes against enemy shipping in Norwegian waters both before and after D-Day. In addition to the direct losses inflicted on the enemy, including to imports of iron ore as well as food, these strikes – alongside attacks on targets ashore and obvious armed reconnaissance of likely landing beaches – were also designed to support the strategic deception campaign. This long-term effort was one of the necessary preconditions for Overlord, aiming as it did to confuse the opponent as to where and when the main landing would take place. One element of it, ‘Fortitude North’, sought to maintain the German belief that the Allies were going to land in Norway before their main effort in the Pas de Calais. It is difficult to precisely identify the effect of this element of the wider deception campaign but at the very least Germany did retain in Norway significant land forces and, particularly useful for Operation

Neptune, 30 U-boats.⁶² While providing cover for operations in the Channel and working to divert enemy forces from there, the Home Fleet was simultaneously supporting convoys to Russia, standing ready to protect them against any heavy surface threat that would overmatch their regular escort (which always included escort carriers, against the air and U-boat threats). Indeed, the strike on *Tirpitz* in April was coordinated with Convoy JA58 to Russia, so the latter would help to draw off enemy reconnaissance aircraft and U-boats.⁶³

V. Carrier operations in other theatres

Royal Navy carriers were also performing other roles, not connected with the invasion of North-Western Europe; it is striking that when the First Sea Lord later listed his main concerns in the early part of 1944, they did not include the Normandy invasion but rather emphasised the Mediterranean, the East Indies and the Far East.⁶⁴ Indeed, the need to balance support for Operation Neptune with the Navy's other commitments was precisely why the huge initial request from the air commanders for FAA aircraft to operate from ashore in support of the landings had to be scaled back: 'The repercussions on both European and Pacific strategy of meeting the full RAF requirements from the FAA for Overlord are too great to be acceptable.'⁶⁵

One of these roles was supporting planned amphibious operations in the Mediterranean, several of which took place in areas that were beyond the range of land-based aircraft. Three escort carriers deployed there in late May to prepare, providing air defence for convoys as they did so, while a third of their aircraft operated from bases ashore with the army in Italy, gaining experience in providing close air support.⁶⁶ Two others were working up in British waters for this combined operations role. In August, seven British escort carriers with 166 fighters, together with two US carriers with 48 aircraft, supported Operation Dragoon, the Allied invasion of southern France; when released from this task the seven British ships headed for Alexandria, from where they supported the liberation of the Greek Aegean islands and covered operations off Crete.⁶⁷

The most important commitment not connected with D-Day was the growing British naval presence in the Indian Ocean and Pacific. A British carrier had previously served there when *Victorious* deployed between March and August 1943, at the request of the US after losses to their carriers left them with just two against Japan's six.⁶⁸ By summer 1944, the Far East was starting to become the principal focus for the British carrier force. While two fleet carriers were, as explained above, attached to the Home Fleet at the time of D-Day, a third, *Illustrious*, supported by an escort carrier, was deployed with

the Eastern Fleet and operating in a combined Allied force with the USS *Saratoga*. In April they attacked Japanese targets at Sabang on the north-east tip of Sumatra, including airfields (destroying 24 aircraft on the ground), oil storage tanks, port installations and shipping. In May, they hit an oil refinery, engineering works, a dockyard and shipping at Sourabaya in Java. In June, *Illustrious* struck Port Blair in the Andaman Islands, including targets such as an airfield, two radar stations, a power station and a seaplane base. In July, she returned to attack the Japanese naval base at Sabang, this time in company with a second Royal Navy fleet carrier, the *Victorious*, recently arrived from the northern Atlantic having been freed from the role of covering Operation Neptune.⁶⁹

Playing a significant part in the war against Japan was a strategic priority for Britain, on political and diplomatic grounds as well as military. Clearly the geography of the theatre meant that British land-based air power would have a very limited role, and gave much value to carrier-based aircraft. *Illustrious* was the vanguard of this effort, gaining experience of operating there with the Americans that would prove invaluable for the expanded British Pacific Fleet that was planned for later in the year. The fourth fleet carrier, *Formidable*, had finished a refit in May and was already en route for the Eastern Fleet on D-Day, while the fifth, *Indomitable* was working up in the Clyde having recently completed repairs in the US before also heading out east on 12 June. It was not

only fleet carriers that were serving in the Eastern Fleet at the time of D-Day: five escort carriers were also attached to it, mainly in an anti-submarine role. Others would follow in the months to come. The force was supported by HMS *Unicorn*, a purpose-designed aircraft maintenance carrier, which helped to reduce the Fleet's dependence on bases ashore.⁷⁰ By June 1944 the balance of advantage in the war at sea in the European theatre had tilted to the extent that Britain's capital ships could begin to shift focus to the Far East. By November, the British Pacific Fleet included five fleet carriers, four escort carriers and an aircraft repair ship, with another five escort carriers with the East Indies Fleet.⁷¹

The growing rebalance to the Eastern theatre brings to light a broader point about the contribution of the carriers to the Normandy landings: it is deeply misleading to assess this by examining the locations or activities of these vessels solely on 6 June 1944. Much of their vital contribution to the invasion of Europe had been provided in the months and years beforehand, establishing the necessary conditions for the preparation and conduct of Operation Overlord. First, they had helped to secure the command of the sea in the Atlantic that was necessary to transport to Britain the men and material that would liberate Europe. This campaign involved neutralising German capital ships by sinking them or containing them in port (in which carriers and battleships were partners) and also helping to protect shipping against the U-boat and air threats. Second, they had

helped to open up the Mediterranean, which eased the burden on allied shipping (arguably their most critical shortage) while also diverting and wearing down German strength, and gaining valuable experience in amphibious operations. Further, at the time of D-Day several escort carriers were operating with the Atlantic convoys, protecting shipping that carried the reinforcements and supplies required for the on-going campaign to liberate Western Europe. A full understanding of the contribution to Operation Neptune of naval aviation therefore requires a longer timeline than simply focussing on the day of the landings alone.

VI. Summary: British aircraft carriers on D-Day

So what were the Royal Navy's carriers doing in the first week of June 1944?⁷² Of the five fleet carriers, *Furious* and *Victorious* were serving with the Home Fleet; having knocked out *Tirpitz* they acted as cover against the rest of the German surface fleet and supported the strategic deception campaign. *Illustrious* was attached to the Eastern Fleet, where she would shortly be joined by *Formidable* (en route) and *Indomitable* (within a week of sailing). That is, two were playing the classic role of the capital ship in support of Operation Neptune, ensuring that the ships conducting it would not have to

face any enemy forces more capable than a light cruiser, while the other three were involved in the emerging focus of British naval effort in the East.

The Royal Navy commissioned 44 escort carriers during the war; on 6 June 1944, three had been sunk (*Audacity*, *Avenger* and *Dasher*) and eleven were yet to complete, either still building or converting, or working up.⁷³ This left 30 escort carriers in service on D-Day. One (*Trumpeter*) was supporting the Home Fleet while working up. Three (*Emperor*, *Pursuer*, *Tracker*) were providing fighter cover for anti-submarine operations in the Southwest Approaches, in cooperation with warships and land-based maritime aircraft. Five (*Attacker*, *Hunter*, *Khedive*, *Speaker*, *Stalker*) were preparing for later amphibious operations in the Mediterranean – some working with convoys in the Western Mediterranean as they did so. Nine were protecting merchant shipping, seven in the Atlantic (*Biter*, *Campania*, *Empress*, *Nairana*, *Searcher*, *Striker* and *Vindex*) and two between Britain and Russia (*Activity* and *Fencer*). Five were serving with or heading out to join the Eastern Fleet (*Ameer*, *Atheling*, *Battler*, *Begum* and *Shah*). Three (*Archer*, *Queen* and *Ruler*) were, like several of the escort carriers that were working up, ferrying aircraft overseas, thereby lending the strategic mobility of sea power to land-based aircraft. Two (*Chaser* and *Slinger*) were repairing; one (*Ravager*) was training pilots in deck landing and one (*Pretoria Castle*) was conducting trials of new aircraft. Three other, older carriers were conducting similar activities: two former

seaplane carriers, *Athene* and *Engadine*, were ferrying aircraft; the elderly *Argus* was engaged in deck landing training.⁷⁴ Finally, the maintenance carrier *Unicorn* was supporting the Eastern Fleet. Taking these four and the 30 operational escort carriers together, four were directly involved in Neptune (three locally, one at a distance) with another nine supporting indirectly, protecting trade in the Atlantic; 10 were in or heading to other theatres, evenly split between the Mediterranean and the Pacific; five were ferrying aircraft, four supporting other carriers (trials, training and repair) and two were undergoing repairs of damage suffered in previous operations.

What emerges most clearly from this summary, together with the earlier section on FAA aircraft operating from ashore, is the huge breadth of roles that British naval aviation was undertaking. These encompassed the whole span of the activities of naval power, from transporting friendly forces, to protecting shipping; from providing cover against the enemy fleet, to supporting amphibious operations. These activities were taking place all over the world, contributing to a range of campaigns at sea and ashore – and providing ammunition for use against critics at home.

VII. The Admiralty reply to Churchill

This article began by noting Winston Churchill's questioning of the value of naval aviation. He initially wrote to the Admiralty on 8 April 1943 asking for periodic reports on the activities of the FAA 'along the same lines' as the RAF produced regarding Bomber Command (perhaps suggesting where this démarche might have originated).⁷⁵ Discussing their reply, senior officials in the Admiralty noted that the statistics he sought would be difficult to compile since the FAA was not separable from the rest of the Navy, and might not be very revealing, not least because: 'They need to be read in the light of what might have happened if aircraft had not been present, or in the light of what might happen if the fleet and carrier threat did not exist to any German surface vessels operating in the Atlantic.'⁷⁶ The First Lord replied to Churchill, pointing out the difficulty of attempting to 'give an adequate picture of the whole of the work of the Fleet Air Arm', because it was not a separate command but rather an integral part of the fleet. Its reconnaissance or anti-submarine work, for example, was not separately recorded any more than was that of navy minesweepers.⁷⁷

Churchill's refusal to accept this response resulted in his minute cited above demanding a detailed account of the performance of the FAA because, 'I cannot recall any important offensive operation that the Fleet Air Arm has performed since Taranto.'⁷⁸

The Admiralty provided an enlightening response to this failure of the prime ministerial memory, with the first of what became a quarterly report on the activities of naval aviation. Responding to Churchill's jibe, it set out in an appendix the full range of FAA achievements since November 1940. It listed 21 'major incidents', some of which would no doubt have been familiar to Churchill. These covered the full range of naval roles: countering enemy warships (including the sinking of the battleship *Bismarck*; the battle of Cape Matapan at which three Italian heavy cruisers were sunk and one Italian battleship badly damaged; sinking enemy destroyers in the Red Sea; and attacking coastal forces in the Channel), attacking enemy shipping (for example, off Greece and off Syria, and from Malta), attacking targets ashore (including a dam in Sardinia, facilities in the Norwegian harbours of Kirkenes and Petsamo, and airfields and harbours in the Eastern Mediterranean), spotting for naval gunfire against targets ashore in Italy and North Africa, supporting amphibious operations (in Madagascar and in North Africa where, the paper noted, the FAA had destroyed 60 enemy aircraft and even captured an airfield), supporting Army operations in North Africa, protecting convoys in the Mediterranean (notably Operation Pedestal to Malta) and to Russia, and transporting 864 RAF fighters to overseas theatres.⁷⁹

Churchill was still not wholly convinced, complaining that the paper showed the FAA was clearly not contributing much to the war because it had not suffered enough

casualties over the preceding three months.⁸⁰ After much internal debate within the Admiralty, it simply recorded, ‘the First Lord does not intend to reply to the PM’s minute unless the PM raises the matter again’.⁸¹ Perhaps it was too late to re-educate a senior politician in the realities of modern naval power and, in particular, the full range and variety of roles of naval aviation which defined simplistic statistical summaries.

VIII. Conclusion

The aim of this article was to assess the ways in which British naval aviation supported Operation Overlord. It has shown that while there could have been a useful role for carrier-based aircraft in Operation Neptune, despite the availability of land-based air power to cover the landings, there were good practical reasons why the carriers were not used immediately off the Normandy beaches. Foremost among these were the sea congestion that their presence would have caused and the greater need elsewhere for the comparative advantages of what was still a small force. The fact that carriers were not in the immediate vicinity of the landings did not, however, mean that naval aviation was failing to support the operation. First, a substantial proportion of the FAA was operating from land bases, using its specialist expertise either to support the landings directly or to free other, land-based aircraft to do so. Second, two out of the five fleet carriers and

several escort carriers were engaged in Operation Neptune, albeit from some distance away. The other fleet carriers and escort carriers were conducting the many other activities of naval power, which continued throughout the Normandy campaign, and in the other theatres where British naval power had commitments.

Given the deep and bitter disputes over naval aviation in the interwar period, early in the Second World War and also post-war, it is striking that there is no evidence of any controversy between the services over the role of naval aviation in support of Overlord. There were some debates but they were characterised by a harmony that was quite unusual for this particular subject. The initial RAF request for support from the Fleet Air Arm was so great that it would have had detrimental effects on other naval operations but when the Admiralty pointed out these implications, the matter was resolved amicably with a compromise. The only – minor – area of disagreement saw the head of Coastal Command seeking to retain the aircraft loaned from the FAA for longer than had initially been agreed. Broadly, though, consensus reigned – in stark contrast to earlier in the war, or indeed in the postwar period. By 1944, the main wartime disputes over strategy and roles for the armed services had been resolved and resources were relatively plentiful; these two favourable conditions reduced the grounds for inter- (and indeed intra-) service competition. When the positive climate changed, the old disputes would recur with a vengeance.

A number of points emerge from this analysis regarding the idiosyncrasies of naval power, distinguishing it from warfare on land or in the air (albeit with more similarities to the latter than to the former).

First, naval campaigns take place and naval forces operate over a larger geographic canvas; a narrow focus on the waters between the Isle of Wight and the Calvados coast overlooks much of what naval aviation was doing in support of Operation Neptune, whether this was operating off Norway to guard against the remaining units of the German fleet, or protecting shipping far out in the Atlantic. Moreover, the Royal Navy in June 1944 did not have the luxury of concentrating solely on the Channel or even Home and Atlantic waters but was also operating in the Mediterranean and the East. These theatres were more closely interconnected at sea than on land or in the air, with forces moving between them more rapidly and more frequently. For example, less than a week after covering the D-Day landings, HMS *Victorious* was en route for the Pacific. The escort carrier HMS *Emperor* was off Norway in April and May 1944, countering the enemy fleet and attacking targets ashore; then in the Southwest Approaches on 6 June, providing air cover for the forces protecting the D-Day landings from U-boats; then supporting amphibious operations in the Mediterranean in July and August. To

understand naval power, a bigger map is required, reflecting the global scope of British strategy.

Second, it is misleading to focus on 6 June alone. Much of the naval support to D-Day had been provided in the months, even years beforehand – helping to win the Battle of the Atlantic, contributing to the opening up of the Mediterranean, putting into place the preconditions and the forces for the liberation of Western Europe. While many elements of naval power had a role on 6 June itself, others had moved on to begin building up the next focus of British strategy, in the Pacific. Naval support to the campaign in Western Europe also continued long after D-Day, as the forces that landed that day had to be reinforced and supplied over the following months. The naval role in Neptune and Overlord can only be understood if a suitably broad timescale is considered.

Many of these campaigns were conducted alongside land-based ground and air forces, or were intended to assist these forces in their own campaigns on land. Yet this cooperation and support did not necessarily require naval forces to be located in close proximity to their sister services, or even to be acting at the same time. Just because the soldier on the beaches of Normandy or the RAF pilot flying above them could not see British carriers did not mean that they were not involved in Operation Neptune. The

contribution of naval forces in general and of naval aviation in particular is easily misunderstood because it is different to that of land and air forces. Their involvement at D-Day, and in other wartime campaigns, requires more than the cursory examination that some observers are prepared to give, even those inhabiting Number 10 Downing Street: Churchill demonstrated on several occasions during the war that his grasp of contemporary naval matters was not quite as firm as he liked to think.

¹ For general works on British naval aviation and aircraft carriers during the Second World War, see David Brown, *Carrier Operations in World War II: Volume 1, The Royal Navy* (London, Ian Allan, 1974); Ian Cameron, *Wings of the Morning: The Story of the Fleet Air Arm in the Second World War* (London, Hodder and Stoughton, 1962); David Hobbs, *British Aircraft Carriers: Design, Development and Service Histories* (Barnsley, Seaforth, 2013); Ben Jones, ed., *The Fleet Air Arm in the Second World War, Volume I: 1939-1941, Norway, the Mediterranean and the Bismarck* (Farnham, Ashgate, 2012); Peter Kemp, *Fleet Air Arm* (London, Herbert & Jenkins, 1954); Hugh Popham, *Into Wind: A History of British Naval Flying* (London, Hamish Hamilton, 1969); Ray Sturtivant, *British Naval Aviation: the Fleet Air Arm, 1917-1990* (Annapolis MD, Naval Institute Press, 1990); Geoffrey Till, *Air Power and the Royal Navy, 1914-1945: A Historical Survey* (London, Janes, 1979); John Winton, *Air Power at Sea 1939-1945* (London, Sidgwick & Jackson, 1976).

² Tim Benbow, 'The capital ship, the Royal Navy and British strategy from the Second World War to the 1950s', in N.A.M. Rodger, Jeremiah Dancy, Benjamin Darnell and Evan Wilson (eds.), *Strategy and the Sea: Essays in Honour of John B. Hattendorf* (Woodbridge, The Boydell Press, 2016).

³ Andrew Boyle, *Trenchard* (London, Collins, 1962); G.A.H. Gordon, *British Seapower and Procurement Between the Wars* (Basingstoke, Palgrave Macmillan, 1988); Eric Grove, *The Royal Navy since 1815* (Basingstoke, Palgrave, 2005), chapter 6; H. Montgomery Hyde, *British Air Policy Between the Wars* (London, Heinemann, 1976); Joseph Moretz, *The Royal Navy and the Capital Ship in the Interwar Period* (London, Frank Cass, 2002); Stephen W. Roskill, *Naval Policy Between the Wars*, two volumes (London, Collins, 1968 & 1976); Till, *Air Power and the Royal Navy*.

⁴ See Tim Benbow, 'British Naval Aviation and the "Radical Review", 1953-1955' in Tim Benbow, ed., *British Naval Aviation: The First 100 Years* (Farnham, Ashgate, 2011) – not least for Churchill's role in the attacks on the Royal Navy; also, 'The Post-1945 Struggle for Naval Aviation', in Peter Hore, ed., *Dreadnought to Daring: 100 Years of Comment, Controversy and Debate in the Naval Review* (Barnsley, Seaforth, 2012); Eric Grove, *Vanguard to Trident: British Naval Policy Since World War II* (London, Bodley Head, 1987).

⁵ Roskill describes Churchill as 'antagonistic' towards the FAA; Stephen W. Roskill, *Churchill and the Admirals* (London, Collins, 1977), pp.231-2. See also Christopher Bell, *Churchill and Sea Power* (Oxford, Oxford University Press, 2013) and Richard Ollard, 'Churchill and the Navy', in Robert Blake and W. Roger Louis, *Churchill* (Oxford, Oxford University Press, 1993); the latter describes Churchill as having 'an invincibly army approach to the use of sea power'; p.383. For Churchill's inconsistency towards naval aviation versus the bomber offensive, see Duncan Redford, 'Inter- and Intra-Service Rivalries in the Battle of the Atlantic', *Journal of Strategic Studies*, Vol.32 No.6 (2009); Tim Benbow, 'Brothers in arms: the Admiralty, the Air Ministry and the Battle of the Atlantic, 1940-43', *Global War Studies*, Vol.11 No.1 (2014), especially pp.79-86.

⁶ National Archives, Kew (all archival references are from the National Archives unless otherwise stated): PREM3/171/7, Personal Minute M284/3 to First Lord, 18 April 1943. Churchill was mistaken about the date for the Taranto raid, which in fact took place in 1940.

⁷ For example: ‘The 1940 attack on Taranto and the 1941 crippling of the *Bismarck* were the only really impressive British naval air operations of the war’; Max Hastings, *Finest Years: Churchill as Warlord 1940-45* (London, HarperPress, 2009), p.246.

⁸ The naval forces immediately involved comprised seven battleships, two monitors, 23 cruisers, 133 destroyers, 192 smaller escorts, 287 minesweepers, two midget submarines, four minelayers and 495 coastal vessels, not to mention 4127 amphibious ships and craft and 1683 civilian vessels from survey ships to buoy-layers. Figures adapted from Admiralty, *BR1736(42), Battle Summary No.39, Operation ‘Neptune’, The Landings in Normandy, 6 June 1944* (London, Admiralty Historical Section, 1947) – hereafter *BR1736(42)* – Sec.18. One seaplane carrier, HMS *Albatross*, was present off Normandy, although not operating aircraft as she was acting as a ‘Landing Ship (Emergency Repair)’, to support landing craft.

⁹ They are mentioned in *BR1736(42)* only briefly, in Secs.18, 22, 36, 56-57 and 65. The only reference in the official history of the wartime Navy appears when the author mentions battleships being kept back from Normandy for use with the Home Fleet, adding in brackets, ‘in addition to the three carriers, which were not needed in Neptune’; Stephen W. Roskill, *The War at Sea 1939-45, Volume III, The Offensive, Part II: 1st June 1944—14th August 1945* (London, HMSO, 1961), pp.10-11. The fullest account in the secondary literature comprises less than 10 lines of text; Kev Darling, *Fleet Air Arm Carrier War: The History of British Naval Aviation* (Barnsley, Pen & Sword, 2009), pp.67-8.

¹⁰ The official label for much of the war, and indeed for some years afterwards, was ‘Naval Aviation’ but both terms are used in archival material, official papers – see for example, *BR1736(42)*, Sec.65 – and the secondary literature, so the more familiar ‘Fleet Air Arm’ is used herein.

¹¹ ADM167/117, Admiralty Board Minute 3894, 16 July 1943.

¹² ADM1/14806, Plans Division, 'Notes for Disposition and Employment of Aircraft Carriers', 23 February 1943; CAB80/76, COS(43)718(O), 'Expansion and distribution of Fleet Air Arm squadrons during the fourth quarter of 1943', 18 November 1943.

¹³ See Hobbs, *British Aircraft Carriers*, pp.114-71 (quotation, p.116); Norman Friedman, *British Carrier Aviation: The Evolution of the Ships and their Aircraft* (London, Conway, 1988), pp.363-4. For background on escort carriers, see David Hobbs, *Royal Navy Escort Carriers* (Liskeard, Maritime Books, 2003); Kenneth Poolman, *Escort Carrier, 1941-1945: An Account of British Escort Carriers in Trade Protection* (London, Ian Allan, 1972); Kenneth Poolman, *Allied Escort Carriers of World War Two in Action* (Annapolis MD, US Naval Institute Press, 1988).

¹⁴ These additional measures included 35 Catapult-Armed Merchant ships (with a single fighter that was a one-shot weapon, the pilot ditching after his mission in the hope of being picked up) and 19 Merchant Aircraft Carriers (large tankers or grain ships, fitted with a flight deck that allowed them to launch and also to recover their three or four Swordfish aircraft, while retaining most of their cargo capacity). ADM205/20, Note by First Lord and Minister of War Transport, 'Air protection for convoys', 13 October 1942; Hobbs, *British Aircraft Carriers*, pp.123-30, 374-5.

¹⁵ For the initial wartime strength, Jones, *Fleet Air Arm*, p.xxv; for the shortage of modern aircraft hindering the use of carriers, see ADM1/14806, Plans Division, 'Notes for Disposition and Employment of Aircraft Carriers', 23 February 1943. The 1945 figures for FAA aircraft are from CAB66/66/17, CP(45)17, First Lord of the Admiralty, 'Summary of Naval Air Operations, 1 February to 1 May 1945', 1 June 1945.

¹⁶ PREM3/163/1, First Sea Lord to Prime Minister, 'Carrier reinforcement of the South-West Pacific', 5 November 1942; also the December 1942 correspondence between Churchill and Roosevelt in the same file.

¹⁷ DEFE2/458, minutes and papers of the 'Rattle' conference, 28 June-2 July 1943; CAB80/72, COS(43)415(O), 'Overlord – digest of plan', and COS(43)416(O), 'Operation Overlord – Report and Appreciation', both 30 July 1943; Frederick Morgan, *Overture to Overlord* (London, Hodder and Stoughton, 1950), pp.138-48.

¹⁸ See the discussion in AIR37/927, COSSAC(43)29, 'Strategical Background, Cross-Channel Operation, 1944', 25 June 1943.

¹⁹ The official estimate a month before D-Day was that Germany would be able to field 70 fighter-bombers and 225 day fighters against Allied totals of 565 and 2230 respectively, a superiority of better than nine to one; AIR20/3990, 'Operation Neptune – Overall Air Plan Aide Memoire', 4 May 1944. On D-Day, Allied aircraft flew 14,674 sorties to 319 by the Luftwaffe; John Terraine, *The Right of the Line: The Royal Air Force in the European War 1939-1945* (London, Sceptre, 1988), p.632.

²⁰ Two single strips were to be available on D+3 with an additional six, two-strip airfields by D+8; COS(43)416(O).

²¹ I would like to thank Andrew Gordon for bringing this point to my attention.

²² Ramsay diaries, entry for Friday 24 March 1944, in Robert W. Love and John Major, *The Year of D-Day: The 1944 Diary of Admiral Sir Bertram Ramsay* (Hull, University of Hull Press, 1994), p.48; also Despatch by Admiral Sir Bertram Ramsay, 'The Assault Phase of the Normandy Landings', Supplement to *London Gazette*, 28 October 1947, para.25.

²³ Ramsay noted in his diary that he had discussed with the First Sea Lord the 'possible use of carrier for artillery spotting purps [sic] off the beaches'. The editors of his diaries elaborate: 'The US 1st Army had asked for the loan of a British aircraft carrier and HMS *Argus* was provisionally allocated, but on 5 May Ramsay decided there was not enough sea room for a carrier in the Assault Area.' Love and Major, *Year of D-Day*, entry for Wednesday, April 19, 1944, editors' note p.58. The possible use of *Argus* for this role is mentioned in *BR1736(42)*, Sec.36.

²⁴ CAB66/50/9, WP(44)259, First Lord of the Admiralty, 'Summary of Naval Air Operations, 1 February 1944 – 1 May 1944', 15 May 1944.

²⁵ During 1940, the FAA provided fighters to defend Scapa Flow and then the north of England during the Battle of Britain, as well as reinforcing the RAF during the Dunkirk evacuation and loaning 58 pilots for the Battle of Britain itself; Admiralty, *BR1736(53)(1): Naval Staff History of the Second World War: The Development of British Naval Aviation 1919-1945, Volume I* (London, Admiralty Historical Section, 1954), paras.108-12.

²⁶ CAB66/39/35, WP(43)335, First Lord of the Admiralty, 'Summary of Naval Air Operations, February, March, April 1943', 22 July 1943.

²⁷ Of the 34 squadrons, 12 were on fleet carriers, 12 on escort carriers, four on MAC ships and six ashore; CAB80/72, COS(43)408(O), 'Distribution and projected formation of FAA first line squadrons in the third quarter of 1943', 26 July 1943.

²⁸ For the Allied response to the U-boat threat, see Despatch by Air Chief Marshal Sir Sholto Douglas, 'Liberation of Europe (Operation 'Overlord') Operations of Coastal Command, Royal Air Force, from May to August, 1944', Supplement to *London Gazette*, 28 October 1947; also Marc Milner, *The U-Boat Hunters: The Royal Canadian Navy and the Offensive against Germany's Submarines* (Annapolis MD, US Naval Institute Press, 1994), pp.134-56.

²⁹ AIR15/497, Headquarters Air Defence of Great Britain, ADGB/S.37548/Ops.3, 11 May 1944. This judgement came shortly after the 27 April attack by E-boats on American landing ships off Devon. As Morison notes, the casualties suffered in this attack were 'greater than the invasion forces suffered on D-Day at Utah beach'; Samuel E. Morison, *History of United States Naval Operations in World War II, Volume XI: The Invasion of France and Germany, 1944-1945* (London, Oxford University Press, 1957), p.66.

³⁰ For Coastal Command, see Terraine, *The Right of the Line*; Christina J.M. Goulter, *A Forgotten Offensive: Royal Air Force Coastal Command's Anti-Shipping Campaign, 1940-45* (London, Frank Cass, 1995); Andrew Hendrie, *The Cinderella Service: RAF Coastal Command, 1939-1945* (Barnsley, Pen & Sword Aviation, 2006).

³¹ CAB80/80, COS(44)135(O), CAS, 'Airborne forces – lift for Overlord', 6 February 1944; CAB79/70/8, COS(44)38th Meeting (O), 8 February 1944; CAB79/70/10, COS(44)40th Meeting (O), 8 February 1944.

³² AIR20/1239, D of Ops., 7 February 1944. The difficulty facing Coastal Command in meeting all of its commitments and the resulting need for the support of the FAA from shore bases and from carriers is also noted in AIR15/497, Headquarters Coastal Command, 'The Role and Commitments of Coastal Command in Overlord', 29 February 1944.

³³ AIR15/500, Douglas to Under Secretary of State, Air Ministry, 'Operation Overlord: Allocation of Fleet Air Arm Squadrons to Coastal Command', 3 May 1944.

³⁴ CAB79/69/22, COS(44)22nd Meeting (O), 24 January 1944; also CAB80/78, COS(44)87(O), Note by Secretary, 27 January 1944.

³⁵ AIR20/1239, ACAS(P) to CAS, 29 January 1944; PREM3/171/8, COS(44)133(O), First Sea Lord, 'Use of Fleet Air Arm Aircraft and Personnel for Overlord', 6 February 1944. The percentages are of the operational strength of the FAA on 1 February 1944, from CAB66/47/49, WP(44)149, First Lord of the Admiralty, 'Summary of Naval Air Operations, 1 November 1943 to 1 February 1944', 7 March 1944, Appendix I.

³⁶ COS(44)133(O). The landings in southern France were eventually delayed until later in the summer under the new code name, Operation Dragoon, when they were conducted with the support of seven British and two US escort carriers; see below.

³⁷ CAB79/70/8, COS(44)38th Meeting (O), 8 February 1944; CAB79/70/10, COS(44)40th Meeting (O), 8 February 1944; PREM3/171/8, Memo for Prime Minister, 'Use of Fleet Air Arm Aircraft and Personnel for Overlord', 8 February 1944.

³⁸ Naval Historical Branch (hereafter NHB), Operations Division, Naval Staff, *Pink List*, 6 June 1944, corrected to 5 p.m., 5 June 1944, p.81. Morison argues that mounting these operations from land bases was less efficient than doing so from carriers: the aircraft operated in pairs, and three pairs were needed to keep one airborne: 'That required six aircraft for each spotting mission – a costly makeshift for want of long-range planes or carrier aircraft trained in this specialised form of combat aviation.' Morison, *Invasion of France and Germany*, p.104.

³⁹ AIR20/4559, ACAS(P), 'Operation Caliph', 8 February 1944, citing the opinion of the RAF Director of Operations (Tactical).

⁴⁰ Admiralty, Gunnery and Anti-Aircraft Warfare Division, *CB 3148, Gunnery Review: Normandy Bombardment Experience, June/September 1944* (London, Admiralty, 1945), Chapter VI para.7.

⁴¹ CAB66/54/8, WP(44)458, First Lord of the Admiralty, 'Summary of Naval Air Operations, 1 May 1944 to 1 August 1944', 21 August 1944.

⁴² NHB, *Pink List*, 6 June 1944, p.82; *BR1736(42)*, Sec.65; ADM199/1555, Commander in Chief Western Approaches to Admiralty, 'U-boat threat during Operation Overlord', 11 March 1944. Signals intelligence had revealed German plans to concentrate U-boats in the Channel when the invasion began; F.H. Hinsley, *British Intelligence in the Second World War, Abridged Edition* (London, HMSO, 1993), pp.463-4.

⁴³ NHB, *War Diary*, 7 June 1944; WP(44)458.

⁴⁴ NHB, *Pink List*, 6 June 1944, p.82; *BR1736(42)*, Sec.65.

⁴⁵ AIR20/1239, Commander-in-Chief Coastal Command to Admiralty, 16 August 1944. Also Douglas, 'Liberation of Europe', paras.8, 11 and 14.

⁴⁶ Milner, *U-Boat Hunters*, p.154. See also *BR1736(42)*, Sec.65.

⁴⁷ John Terraine, *Business in Great Waters: The U-Boat Wars 1916-1945* (London, Leo Cooper, 1989), p.768

⁴⁸ NHB, *Pink List*, 6 June 1944, p.81.

⁴⁹ AIR8/1458, CAS to First Sea Lord, 21 June 1944.

⁵⁰ The increase in the scope of the assault demanded eight additional fighter squadrons: PREM3/340, SHAEF to Combined Chiefs of Staff, 23 January 1944, para.11. In their reply, the British Chiefs of Staff emphasised, 'our own fighter resources will be severely stretched to meet the present requirements of Overlord'; PREM3/340, Air Ministry to Britman, Washington, no date.

⁵¹ At the beginning of August, the FAA had 380 operational single seat-fighters and 339 TBR aircraft; WP(44)458.

⁵² See for example, AIR20/1239, Director of Naval Air Organisation to ACNS(H), 5 May 1944; CAB80/83, COS(44)455(O), 'Distribution and projected formation of Fleet Air Arm first line squadrons for the second quarter of 1944', 25 May 1944; PREM 3/171/10, Naval Air Warfare and Flying Training Division, 'CB3053(9), Naval Aircraft Progress and Operations: Periodical Summary No.9 – period ended 30 June 1944', September 1944.

⁵³ See AIR20/1239, Admiralty to Coastal Command, 25 July 1944; CINC Coastal Command to Admiralty, 16 August 1944; and Admiralty to CINC Coastal Command, 21 August 1944.

⁵⁴ This cover was requested by the Commander-in Chief of Coastal Command in March 1944; AIR15/497, Minutes of meeting at Coastal Command, 24 March 1944.

⁵⁵ Morison, *Invasion of France and Germany*, p.56, and Roskill, *The Offensive, Part II*, p.10-11, both state that three fleet carriers were attached to the Home Fleet – this is the force that the former described as excessive (see below). In fact, only *Furious* and *Victorious* were operational; the third, *Indomitable*,

was returning from refit and was not available at the beginning of June 1944. NHB, *Pink List*, 5 June 1944, p.2.

⁵⁶ Stephen W. Roskill, *The War at Sea, 1939-1945, Volume III: The Offensive, Part I: 1st June 1943-31st May 1944* (London, HMSO, 1960), pp.273-8; see also Admiralty, *BR1736(20), Battle Summary No. 27: Naval Aircraft Attack on the 'Tirpitz' (Operation Tungsten) 3rd April 1944* (London, Admiralty Historical Section, 1945); and *BR1736(53)(2): Naval Staff History of the Second World War: The Development of British Naval Aviation 1919-1945, Volume II* (London, Admiralty Historical Section, 1956), pp.215-22.

⁵⁷ Morison argued this on the grounds that, as he put it, the only German units larger than a destroyer that were capable of going to sea on D-Day were the heavy cruiser *Prinz Eugen* and the light cruisers *Nürnberg* and *Emden*; Morison, *Invasion of France and Germany*, p.56.

⁵⁸ Roskill, *The Offensive, Part II*, p.10; also *BR1736(42)*, Sec.2.

⁵⁹ ADM199/1551, NJC 1004: Initial Joint Plan (for Neptune), 1 February 1944, para.6.

⁶⁰ For this contingency plan, see ADM199/1583, Allied Naval Commander, Expeditionary Force, 'Operation Hermetic', 24 May 1944.

⁶¹ AIR15/497, Headquarters Coastal Command, 'The Role and Commitments of Coastal Command in Overlord', 29 February 1944.

⁶² For carrier strikes against shipping off Norway around D-Day, see NHB, *War Diary*, entries for 2 June, 7 June and 9 June 1944. For the role of the Home Fleet in supporting the deception, *BR1736(42)*; also Roskill, *The Offensive, Part II*, p.11. A similar service had been provided in support of Operation Husky: in July 1943, the fleet carriers *Furious* and *Illustrious*, plus the repair carrier *Unicorn*, simulated an attack against Southern Norway as a diversion in support of the Sicily landings (while two fleet carriers provided local cover in the Mediterranean); *BR1736(53)(2)*, p.228. For Fortitude North, see DEFE2/455, plan for Operation Fortitude, 23 February 1944; Michael Howard, *British Intelligence in the Second World War, Volume Five: Strategic Deception* (London, HMSO, 1990), pp.110-12, 15-17; Mary

Katherine Barbier, *D-Day Deception: Operation Fortitude and the Normandy Invasion* (Westport CT, Praeger, 2007).

⁶³ CB3053(9); Roskill, *The Offensive, Part I*, pp.272-73; also Poolman, *Escort Carrier, 1941-1945*, pp.129-33.

⁶⁴ Admiral of the Fleet Viscount Andrew B. Cunningham, *A Sailor's Odyssey* (London, Hutchinson, 1951), p.597.

⁶⁵ COS(44)133(O).

⁶⁶ CB3053(9). In May, three assault escort carriers had conducted training exercises in Northern Ireland with the Army; WP(44)259.

⁶⁷ CAB66/59/14, WP(44)714, First Lord of the Admiralty, 'Summary of Naval Air Operations, 1 August to 1 November 1944', 7 December 1944; Admiralty Historical Section, 'Battle Summary No.43: Invasion of the South of France: Operation 'Dragoon', 15 August 1944' (1950), in Andrew Stewart, (ed.), *Operation Dragoon: The Invasion of the South of France, 15 August 1944* (Solihull, Helion, 2014).

⁶⁸ PREM3/171/10: VCNS to Prime Minister, 'Employment of HMS *Victorious* with USN, January to September 1943', 28 September 1943; ADM1/14806, 'Provision of Aircraft Carriers for Named Operations in 1943', 4 June 1943.

⁶⁹ WP(44)458; CB3053(9); also Roskill, *The Offensive, Part I*, pp.354-8, and *The Offensive, Part II*, pp.200-01; Brown, *Carrier Operations*, pp.107-9.

⁷⁰ Hobbs, *British Aircraft Carriers*, pp.225-34.

⁷¹ WP(44)149. For general accounts, see David Hobbs, *The British Pacific Fleet: The Royal Navy's Most Powerful Strike Force* (Barnsley, Seaforth, 2011); Jon Robb-Webb, *The British Pacific Fleet, Experience and Legacy 1944-1950* (Farnham, Ashgate, 2013).

⁷² This summary is derived from CAB80/76, COS(43)718(O), 'Expansion and distribution of Fleet Air Arm squadrons during the fourth quarter of 1943', 18 November 1943; CAB80/78, COS(44)44(O),

‘Expansion and distribution of Fleet Air Arm squadrons during the first quarter of 1944’, 19 January 1944; CAB80/83, COS(44)455(O), ‘Distribution and projected formation of Fleet Air Arm first line squadrons for the second quarter of 1944’, 25 May 1944; CB3053(9); NHB, *Pink List*, 6 June 1944; WP(44)458; Brown, *Carrier Operations*, pp.143-50; and the indispensable Hobbs, *British Aircraft Carriers*.

⁷³ *Arbiter*, *Nabob* – whose entry into service was delayed by the use from ashore of the air group allocated to her, *Patroller*, *Premier*, *Puncher*, *Rajah*, *Ranee*, *Reaper*, *Smiter*, *Thane*, and *Trouncer*.

⁷⁴ *Argus* had, when she was commissioned in September 1918, become the world’s first true aircraft carrier; Hobbs, *British Aircraft Carriers*, pp.44-8.

⁷⁵ PREM3/171/7, Prime Minister to First Lord, Lord, M245/3, 8 April 1943. His subsequent use of the term ‘offensive’ along precisely the lines that Bomber Command tended to deploy it, excluding most naval (or indeed army) operations, is also instructive; see Benbow, ‘Brothers in Arms’, pp.59-63.

⁷⁶ ADM205/27, Fifth Sea Lord to First Sea Lord, 10 April 1943. The author, Rear Admiral Denis Boyd, had commanded HMS *Illustrious* during the Taranto operation. His memorandum noted that media reports often either ignored FAA activities or wrongly credited them to the RAF; he also suggested that part of the problem was the failure of naval publicity to be as proactive as that of the RAF, ‘whose every sortie is recorded.’ See also ADM205/27, ACNS(A) to VCNS, 10 April 1943.

⁷⁷ PREM3/171/7, First Lord to Prime Minister, 16 April 1943.

⁷⁸ PREM3/171/7, Personal Minute M284/3 to First Lord, 18 April 1943; he did note grudgingly that he understood that it conducted reconnaissance work for the fleet, further adding by hand, ‘and of course the Malta convoys’.

⁷⁹ WP(43)335.

⁸⁰ ADM205/56, Prime Minister to First Lord, M512/3, 23 July 1943. This petulant minute is reproduced in Winston S. Churchill, *The Second World War*, Volume V, *Closing the Ring* (London, Cassell, 1952), p.576. Evidently he felt that it reflected sufficiently well on himself to include in his history of the war.

⁸¹ ADM205/56, Minute, 3 September 1943. ‘This appears to be a case where judicious stalling by Pound [First Sea Lord] averted a row with Churchill’; Roskill, *Churchill and the Admirals*, p.232. For other, less restrained responses, see ADM205/56, especially Fifth Lord to First Sea Lord, 23 July 1943 (in which Boyd states ‘I am naturally astonished at the spirit of the Prime Minister’s minute’); Director of Plans to First Sea Lord, 25 July 1943 (which noted that the same logic would apply to the Army and RAF in Persia in 1942, the Eighth Army in North Africa for long periods, and the Civil Defence Forces after the end of the blitz); and the draft reply by ACNS(A), 30 July 1943.